REMARKS/ARGUMENTS

Reconsideration and reexamination is requested in view of the above amendments to the claims and the following remarks. Independent Claim 1 has been amended and new Claim 41 has been added. Support for the amendments and the new claim can be found in the specification, as originally filed, for example at page 4, line 5 to page 5, line 23 and at Fig. 3. Claim 29 has been canceled. Claims 15-28 and 30-40 have been withdrawn from consideration. Accordingly, Claims 1-28 and 30-41 are currently pending in this application.

1. New Matter Objection

The Examiner objected to the amendment, filed Feb. 9, 2004 under 35 U.S.C. 132(a) as introducing new matter into the disclosure. The Examiner contends the amendment changes the scope of the invention to describe two embodiments wherein either a thermoplastic adhesive or a thermosetting adhesive is employed as the permanent adhesive. Applicant has deleted reference to the alternate embodiments in the Amendments to the Specification above.

2. Drawing Objections

The Examiner objected to Fig. 3 because the reference number 50 shown in Fig. 3 is not described in the present application. Further, the Examiner contends reference character 5 has been used to designate both the flock and the release agent. Applicant has provided a replacement drawing sheet deleting reference numeral 50 and has deleted the number 5 after the term "release sheet" at page 3, line 24 of the specification.

3. Double Patenting Rejections

Claims 1-14 and 19 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting over Claims 1-4 and 18-53 of copending Application No. 09/621,830 (4811-9). A suitable terminal disclaimer is enclosed herewith.

4. Prior Art Rejections

Claims 1, 6, 7, and 9-14 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,115,104 to Bunyan ("Bunyan"). Claims 1-4, 6-14, and 29 were also rejected

under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,687,527 to Higashiguchi ("Higashiguchi"). Applicant respectfully traverses the rejections for the following reasons.

First, it is important to understand that the product produced by the claimed invention is substantially different from the products produced by the prior art. In other words, because there are significant differences in the manufacturing processes of the claimed invention and known processes, the resulting products are also novel and nonobvious over known products produced by such known processes. In one embodiment of the present invention, as shown in Fig. 5 of the present specification, a continuous web of a transfer 1 (having flock adhered thereto), a thermosetting film 13, and a substrate 15 can be brought into contact with one another in a continuous process to provide a flocked article having flock adhered directly to a substrate by a uniform, solid, and continuous thermosetting film having a substantially uniform thickness and substantially flat upper and lower surfaces. In such an embodiment, most or substantially all of the flock will be contacted and adhered to the thermosetting film. The flock or adhesive is not applied in a pattern. By doing so, this process has numerous advantages over the prior art. For example, the process of the present invention provides a uniform distribution of adhesive across the substrate, avoids the danger of the vapors associated with known liquid adhesives, enables the transfer to be sold independently of the substrate to which it may be ultimately adhered to, and enables an in-line, continuous process, thereby saving considerable expense and money as compared to the prior art, and eliminates the need for a binder adhesive.

In contrast, the prior art teaches at least three different methods to produce products having substantially different characteristics than the claimed products of the present invention. A first method is to spray a patterned adhesive onto a substrate to pattern the adhesive in a desired design and thereafter apply flock to the adhesive. Bunyan, for example, teaches a method of applying a high tack flocking adhesive to a substrate by knife coating, spraying, dipping, or the like. *See* col. 3, lines 19-41 of Bunyan and col. 4, line 66 to col. 5, line 5. Thereafter, flock is preferably selectively applied to the applied adhesive. *See* col. 4, lines 52-65.

In addition, Higashiguchi, for example, in Figs. 1 and 2 and at col. 1, line 56 to col. 2, line 12, teaches spraying a patterned adhesive onto a substrate to pattern the adhesive in a desired design, thereafter applying a flocked paper to the adhesive, and removing the flock paper and flock which is not contacted by the patterned adhesive.

A second method is to instead screen print an adhesive onto a substrate to pattern the adhesive as taught by Higashiguchi, for example. Higashiguchi teaches a method for printing a predetermined flock pattern on a substrate using a cross linking type synthetic resin as the printing ink. The printing ink/adhesive is screen printed as a layer 16 on a fabric substrate 12 in a predetermined design pattern. Thereafter, a flock sheet or mount is applied endways to the adhesive layer by pressing with heat the flock fibers against the adhesive layer in the design pattern. Subsequently, the flock sheet is peeled off the substrate surface to transfer the flock fibers from the flock sheet to the substrate. *See* Higashiguchi, col. 3, lines 5-18 and col. 4, lines 44-59.

Numerous deficiencies exist with respect to each of the above methods and the resulting articles they produce. First, at least the processes of spraying the adhesive in a pattern on the substrate (Bunyan or Higashiguchi, Figs. 1 and 2) or screen printing the adhesive on the substrate produces an article having a substantially non-uniform deposit of adhesive. For example, prior art Figs. 1-2 of Higashiguchi clearly illustrate a sprayed adhesive which forms non-uniform globules of the adhesive on the substrate. This is highly undesirable. Instead, a uniform distribution of the adhesive is desired because when the distribution of adhesive is substantially uniform on the substrate, the depth to which the flock fibers are imbedded in the adhesive can also be more accurately controlled and reduced. By exposing more of the flock fibers, decreasing the depth to which the flock fiber is imbedded in the adhesive, and ensuring the flock fibers are of a similar length, a softer flocked final product can be provided. An article manufactured by spraying the adhesive on the substrate as shown by Bunyan or by Figs. 1 and 2 of Higashiguchi, for example, would have a non-uniform distribution of adhesive.

Second, when the adhesives are in the form of a liquid, which they must be to apply the adhesive by spraying or by coating as in each of the methods discussed above, such adhesives are known to include airborne particles that are volatile and flammable which are known to contain a substantial amount of volatile organic compounds (VOC's) and which can provide difficulties in complying with EPA and OSHA regulations. The flammability of the solvents is of particular concern and danger when mixed with electrostatic flock. As a result of these substantial health, compliance, and safety concerns, prior to the present invention, the use of thermosetting adhesives decreased substantially despite their desirable thermal and adhesive properties. However, the use of a pre-formed, solid, continuous, and self-supporting thermosetting film in the present invention enables the use of thermosetting adhesives without the health, compliance, and safety concerns previously associated with such adhesives.

Third, when the adhesives are screen printed on the substrate as taught by Higashiguchi, for example, the resulting products cannot be sold independently of the substrate to which the flock is adhered. Thus, such processes cannot produce the flocked transfer product that can be sold and shipped separately from the substrate to which may eventually be adhered to. This is a substantial deficiency of such methods. In contrast, the flocked transfer of the claimed invention can be sold as a transfer or as a product adhered to a substrate.

Fourth, screen printing or spraying an adhesive onto a substrate in a predetermined pattern generally renders such processes incapable of being an in-line, continuous process because the liquid adhesive generally cannot be repetitively applied to the substrate, the above methods are incapable of producing articles on a continuous basis as in the present invention.

As a result of the substantial differences between the process of the present invention and known processes, neither Bunyan nor Higashiguchi teach or suggest, individually or collectively, the resulting product of the process of the present invention, including at least the following italicized language in each of the following independent claims as amended.

1. A flocked assembly, comprising flock and *a pre-formed, solid, continuous, and self-supporting thermosetting* film, wherein the flock is in contact with and adhered to the thermosetting film, *wherein the thermosetting film is free of an acrylic adhesive, wherein substantially all free ends of the flock contact the thermosetting film, and wherein the thermosetting film has a substantially uniform thickness and substantially flat upper and lower surfaces.*

Bunyan

Bunyan is directed to a shielding gasket that includes a conductive or non-conductive resilient core, the surface of which is rendered electrically conductive by flocking with conductive fibers. At col. 4, lines 19-31, Bunyan discloses that high tack flocking adhesive is applied to the core with suitable adhesives being thermoset urethane adhesives and acrylics. The adhesive of Bunyan is in liquid form. "The flocking adhesive may be applied to the gasket surface using any suitable technique, e.g., knife coating, dipping, spraying, and the like." *See* Bunyan, col. 4, lines 39-47. Thus, even it in its final product form, the adhesive of Bunyan will not have a substantially uniform thickness and substantially flat upper and lower surfaces. Instead, the adhesive applied as a liquid and allowed to dry will be uneven as is illustrated by Figs. 1 and 2 of Higashiguchi, for example.

After applying the adhesive, flocking is applied to the adhesive portion. Bunyan discloses that a particularly advantageous aspect of the invention is to selectively apply the flock to render selected areas of the gasket surface conductive and non-conductive. To accomplish this, Bunyan teaches that a mask, i.e. tape strip, is applied to the gasket surface prior to flocking. Thereafter, the gasket surface is flocked and the mask removed to provide flocked and unflocked areas. *See* col. 4, lines 60-65 of Bunyan. Alternatively, Bunyan discloses that the flocking adhesive may be selectively applied to the areas desired to be flocked, "e.g. by brush or knife coating the adhesive on those areas." Bunyan states that "[t]his method is suitable for use with adhesive methods which allow selective coating rather than methods such as dip coating, which inherently result in the coating of adhesive over the entire surface." *See* col. 4, line 66 to col. 5,

line 5. Accordingly, Bunyan does not teach or suggest a flock assembly wherein all free ends of the flock contact a pre-formed, solid, continuous, and self-supporting thermosetting film having a substantially uniform thickness and substantially flat upper and lower surfaces.

Further, as in Higashiguchi below, the adhesive in Bunyan is applied to the substrate first before applying flock to the adhesive. Therefore, Bunyan does not teach or suggest a flocked assembly having a thermosetting film that is not adhered to a substrate.

Higashiguchi

Higashiguchi teaches a method for printing a predetermined flock pattern on a substrate using a cross linking type synthetic resin as the printing ink. The printing ink/adhesive is screen printed as a layer 16 on a fabric substrate 12 in a predetermined design pattern. Thereafter, a flock sheet or mount is applied endways to the adhesive layer by pressing with heat the flock fibers against the adhesive layer in the design pattern. Subsequently, the flock sheet is peeled off the substrate surface to transfer the bonded flock fibers from the flock sheet to the substrate. As shown in Figs. 6 and 7, a notable portion of the flock is removed from the substrate as waste with the flock sheet. See Higashiguchi, col. 3, lines 5-18 and col. 4, lines 44-59.

Further, according to Higashiguchi, at col. 4, lines 32-43:

> The synthetic resins suitable for the present invention are those of self-crosslinking type or reactive crosslinking type which are used as the so-called *binders* of printing inks.
>
> As is well known, the synthetic resins used as *binders* not only have the function of binding the pigments together which constitute the ink, but also impregnate the fibrous tissues such as papers and cloths constituting the surface to be printed, and hold together these fibrous tissues and the pigments printed on the surface of the tissue, thereby assuring good adherence therebetween. (Emphasis added).

Accordingly, Higashiguchi fails to teach or suggest a flocked assembly wherein substantially all free ends of the flock contact a thermosetting film since a notable amount of the flock in Higashiguchi does not even contact an adhesive, let alone an adhesive film, as required

in Claim 1. Further, Higashiguchi does not teach or suggest a flocked assembly having a thermosetting film that is not adhered to a substrate since the adhesive is screen printed onto the substrate.

Even further, Higashiguchi's teaching of only applying adhesive onto a substrate to pattern the adhesive in a desired design teaches away from the claimed invention. In one embodiment of the claimed invention, the flocked transfer does not include adhesive in a patterned design, but instead is an assembly that may thereafter be cut into a desired pattern. One skilled in the art upon a reading of Higashiguchi would not be motivated to contact all of the flock with an adhesive as doing so would not only result in waste of the flock, but also would result in waste of the adhesive when cutting the transfer to a desired shape or pattern. Instead, Higashiguchi teaches that the adhesive should be applied only in a pattern and not to substantially all of the flock as claimed.

Dependent Claim 2 is directed to a transfer comprising the flocked assembly of Claim 1.

Dependent Claim 3 requires that the first ends of said flock are adhered to a release sheet by a release agent and wherein the thermosetting film contacts opposing second ends of the flock.

Dependent Claim 4 requires that the transfer is adhered to a substrate and wherein the transfer is free of a hot melt adhesive.

Dependent Claim 5 requires that the transfer is adhered to said substrate by the thermosetting film and wherein the thermosetting film comprises a thermosetting polyester.

Dependent Claim 6 requires that the thermosetting film is a thermosetting polyurethane film or a thermosetting polyester film.

Dependent Claim 7 requires that the thermosetting film is precut to correspond to a shape of the transfer and wherein the thermosetting film is a thermosetting polyurethane.

Dependent Claim 8 requires that a release agent and release sheet are located on a first surface of the flock and the thermosetting film is positioned on a second surface of the flock and the first and second surfaces are in an opposing relationship.

Dependent Claim 9 requires that the thermosetting film is crosslinked.

Dependent Claim 10 requires that there is no binder adhesive located between the thermosetting film and the flock. Higashiguchi discloses at col. 4, lines 32-43:

> The synthetic resins suitable for the present invention are those of self-crosslinking type or reactive crosslinking type which are used as the so-called ***binders*** of printing inks.
>
> As is well known, the synthetic resins used as ***binders*** not only have the function of binding the pigments together which constitute the ink, but also impregnate the fibrous tissues such as papers and cloths constituting the surface to be printed, and hold together these fibrous tissues and the pigments printed on the surface of the tissue, thereby assuring good adherence therebetween. (Emphasis added).

Accordingly, Higashiguchi fails to teach a transfer having no binder adhesive (*see* col. 4, lines 32-43 of Higashiguchi) between a thermosetting film and flock.

Dependent Claim 11 requires that the thermosetting film is applied to a substrate and the thermosetting film preformed before application to the flock and substrate.

Dependent Claim 12 requires that the thermosetting film is not fully crosslinked.

Dependent Claim 13 requires that the flock is in direct physical contact with the thermosetting film.

Dependent Claim 14 requires that the thermosetting film is not fully activated.

Dependent Claim 41 requires that the thermosetting film is not adhered to a substrate. As discussed above, Higashiguchi teaches screen printing an adhesive onto a substrate. In addition, Bunyan teaches that its flocking adhesive may be applied to the gasket surface [substrate] using any suitable technique, e.g., knife coating, dipping, spraying, and the like." *See* Bunyan, col. 4, lines 39-47. Accordingly, neither Higashiguchi nor Bunyan teach or suggest a thermosetting

film that is not adhered to a substrate and that can be sold as an independent product as in the claimed invention.

Based upon the foregoing, Applicant believes that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to:

Fig. 3. This sheet, which includes Fig. 3, replaces the original sheet including Fig. 3.

The reference numeral 50 has been removed from Fig. 3.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes

Title of Invention: FLOCKED TRANSFER AND ARTICLE OF MANUFACTURE INCLUDING THE FLOCKED TRANSFER
Inventor's Name: ABRAMS, Louis Brown
Application No. 10/670,091 Filing Date: 9/23/2003
Atty. Docket No. 4811-9-CON Confirmation No. 6362
Attorney: MWS Telephone: 303/863-9700

ANNOTATED SHEET SHOWING CHANGES

~~PMB-P319~~ Deleted

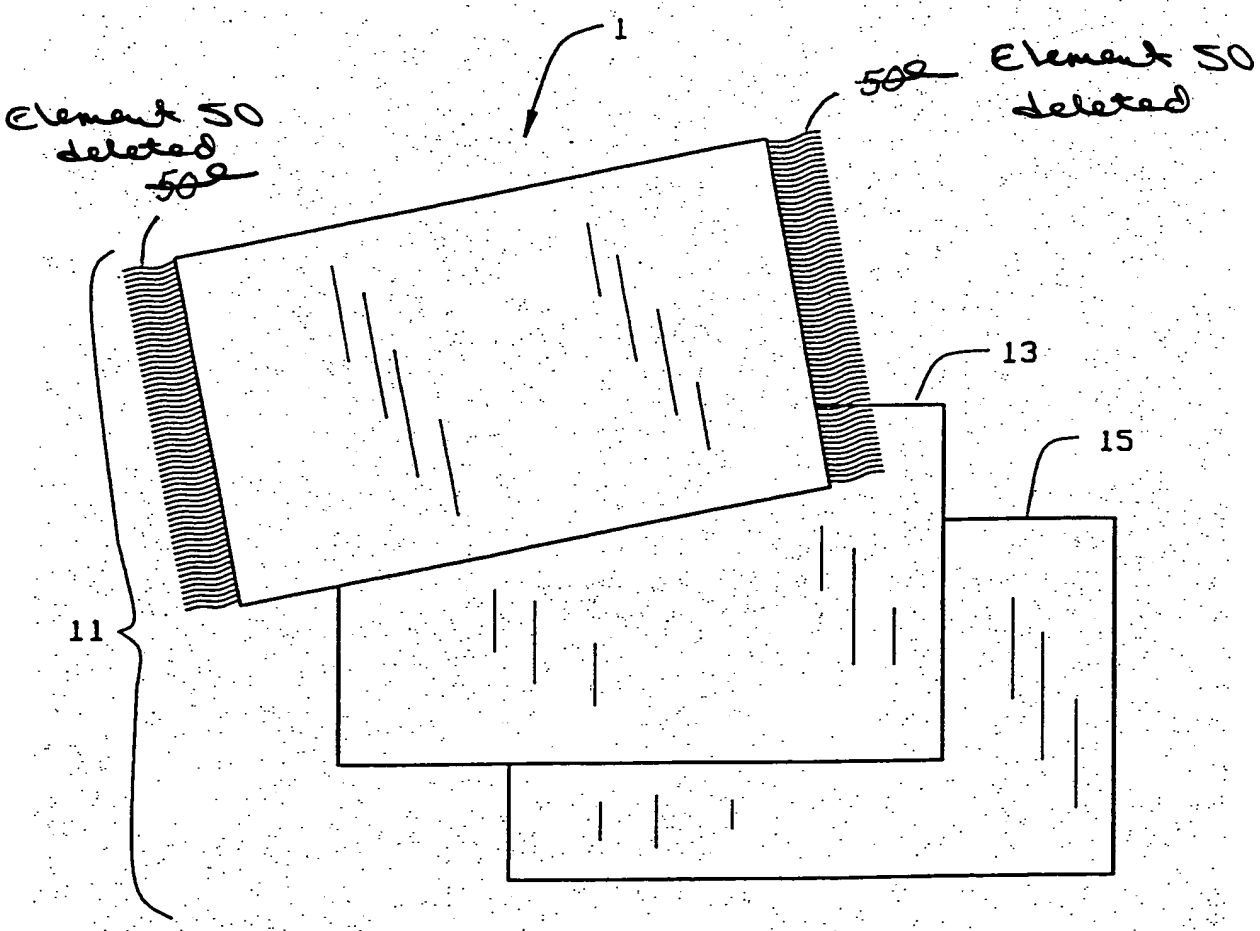

FIG. 3